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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/508,512	03/24/2000	ROBERT ARTHUR HENRY EDWARDS	REF/EDWARDS/	3037

7590

11/05/2002

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EXAMINER

CROSS, LATOYA I

ART UNIT

PAPER NUMBER

1743

DATE MAILED: 11/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/508,512

Applicant(s)

EDWARDS ET AL.

Examiner

LaToya I. Cross

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 August 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-15,17-19,22-26,28-33 and 38 is/are rejected.
- 7) ☒ Claim(s) 5,16,20,21,27,34-37 and 39-41 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This Office Action is in response to Applicants' amendment filed August 23, 2002 and entered as Paper No. 6. Claims 1-41 are pending in the application.

#### ***Withdrawal of Rejections from Previous Office Action***

- All rejections in the previous Office Action are hereby withdrawn.

#### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 37 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 37 recites "said sealed radiation monitor". There is insufficient antecedent basis for this limitation.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 4, 7, 8, 23, 24, 29, 30, 32, 33 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,132,539 to Kwasnick et al (hereinafter Kwasnick et al '539).

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Kwasnick et al '539 teach a radiation imager comprising a scintillator mated with a photodetector array. The scintillator may be cesium iodide or alternatively any other known scintillating material (col. 3, lines 44-46). A desiccant, such as silica gel, is formed around the scintillation material to provide moisture protection for the scintillator (col. 5, lines 23-27). A photodetector array is optically coupled adjacent to the scintillator and further connected to a processing circuit, which processes electrical signals for use in display and analysis equipment (col. 2, line 68 – col. 3, line 3). The photodetector array is a plurality of photodiodes (col. 3, lines 4-15). It is noted that Applicant's claims recite "suitable for selective response to tritiated water vapor and other hydrophilic tritiated species in a gas", however, this is mere intended use. In claims directed to an apparatus, the intended use is given no patentable weight.

Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be anticipated, within the meaning of 35 USC 102(b) in view of the teaching of Kwasnick et al '539.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3, 4, 7-12, 23, 24, 29, 30, 32, 33 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwasnick et al '539 in view of US Patent 4,562,158 to Schellenberg (hereinafter Schellenberg '158).

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The disclosure of Kwasnick et al '539 is described above.

Kwasnick et al '539 fail to teach 1) pretreating the scintillation material with a detergent (claims 9, 10) and 2) the use of the scintillation material to monitor the activity of tritiated water vapor (claims 11, 12).

Schellenberg '158 teaches that scintillation elements can be used in counting isotopes such as tritium. Schellenberg '158 further teaches that including a small amount of detergent, such as Triton X sulfonate, improves the ability of the scintillator to receive water or aqueous solutions. It would have been obvious to one of ordinary skill in the art to incorporate a detergent material into the scintillators of Kwasnick et al '539 to improve their wettability.

Therefore, for the reasons set forth above, Applicant's claimed invention is deemed to be obvious, within the meaning of 35 USC 103 in view of the teachings of Kwasnick et al '539 and Schellenberg '158.

7. Claims 2, 13-15, 17-19, 22, 23, 25, 26, 28, 30-33 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwasnick et al '539 in view of Schellenberg '158 as applied to claims 1, 3, 4, 7-12, 23, 24, 29, 30, 32, 33 and 38 above, and further in view of Great Britain publication 1,092,797 to Atomic Energy (hereinafter Atomic Energy '797).

Neither Kwasnick et al '539 nor Schellenberg '158 teach 1) the particular scintillating material recited in claim 2; 2) an inlet/outlet for gas, and 3) a measuring means a recited in claims 17, 18, 19, 30, 31 and 31.

Regarding the particular scintillating material being used, Atomic Energy '797 discloses detection of tritium in air and vapors. The reference teaches use of a plastic phosphor scintillation material for good light collection efficiency. See page 3, lines 1-5 and 52-60. With

respect to the inlet/outlet ports Atomic Energy '797 teaches a preferred embodiment comprising a detector cell having inlet and outlet parts, as well as optically clear windows (page 2, lines 68-96). This allows efficient detection of tritium by allowing pure gases to flow inward and outward. For measuring, Atomic Energy '797 teaches using photomultiplier tubes that are fed through amplifiers, which in turn feed rate meter circuits and recording meters.

It would have been obvious to one of ordinary skill in the art to use the teachings of Atomic Energy '797 to incorporate inlet and outlet parts, as well as measuring means into the device of Schelenberg '158 to provide a more efficient scintillating element for determining tritium.

#### ***Allowable Subject Matter***

Claims 5, 16, 20, 21, 27, 34-37, and 39-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record do not teach or suggest to the particular hygroscopic materials of claim 5 in a scintillating element as claimed. The prior art also fails to teach or reasonably suggest a time output measuring means or a non-discriminatory tritium monitor in combination with the scintillating element. Regarding claims 34-37 and 39, no second sealed radiation monitors are taught or suggested by the prior art of record. While publications such as EP 1118878, EP 1118879 and EP 1115011 may teach scintillating elements similar to those applicants claim, these references are not available as prior art due to their publication dates.

#### ***Response to Arguments***

8. Applicant's arguments with respect to claims 1-41 have been considered but are moot in view of the new ground(s) of rejection.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaToya I. Cross whose telephone number is 703-305-7360. The examiner can normally be reached on Monday-Friday 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 703-308-4037. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

LIC  
November 2, 2002

  
Jill Warden  
Supervisory Patent Examiner  
Technology Center 1700